Space Weather Forecast

Issued on Tuesday, 19 April 2022 at 01:28 Local

This forecast provides a four day assessment of space weather events. The probabilities stated below are for reaching or exceeding the given levels. For more information about space weather impacts please see the Met Office Space Weather Scales https://www.metoffice.gov.uk/weather/learn-about/space-weather/uk-scales

---

Space Weather Forecast Headline: Moderate-class flares likely throughout (R1/R2 Radio Blackouts).

Analysis of Space Weather Activity over past 24 hours
Solar Activity: Solar activity was moderate through the last 24 hours, due to moderate class flares from a large complex region in the northeast and a complex region close to the southwest limb. There are four more sunspots on the visible disc, a further complex region in the northwest, along with three small, benign regions, one in the northwest and two in the southeast. No Earth-directed CMEs were observed on available imagery.

Solar Wind / Geomagnetic Activity: The Earth is currently under the influence of a fast solar wind, with this reaching elevated levels. Total magnetic field strength was weak, with the north-south component also varying weakly. Geomagnetic activity was Quiet to Unsettled.

Energetic Particles / Solar Radiation: No solar radiation storms were observed in the period, despite a series of sizeable, mainly western solar hemisphere flares.

Four-Day Space Weather Forecast Summary
Solar Activity: Solar activity is expected to be moderate over the next four days with Moderate-class flares expected and a slight chance of Extreme-class flaring, mainly from the regions currently in the northeast quadrant.

Solar Wind / Geomagnetic Activity: There are no Earth-directed CMEs in the forecast. The Earth is expected to transfer from the current fast wind, into a different fast wind on either 20 or 21 April. Geomagnetic activity is forecast to be mainly Quiet or Unsettled, but with a slight chance of Active or G1/Minor Storms due to the current fast wind, or transition into the next fast wind.

Energetic Particles / Solar Radiation: No solar radiation storms are expected, but the daily probability should show a rising slight chance of S1 or greater in the four days, the result of westward progression of the largest spots.

Issued by Met Office Space Weather Advisor, Tel: +44 (0) 330 135 4254 Email: moswoc@metoffice.gov.uk

© Crown Copyright 2022. All Rights Reserved.

Met Office

Space Weather Forecast

Geomagnetic Storms:

Geo-Magnetic Storm Probability (Exceedance)	Level	Past 24 Hours (Yes/No)	Day 1 (00-24 UTC) (%)	Day 2 (00-24 UTC) (%)	Day 3 (00-24 UTC) (%)	Day 4 (00-24 UTC) (%)
Minor or Moderate	G1 to G2	No	5	5	5	1
Strong	G3	No	1	1	1	1
Severe	G4	No	1	1	1	1
Extreme	G5	No	1	1	1	1

Radio Blackouts - X Ray Flares:

X Ray Flares Probability	Level	Past 24 Hours (Yes/No)	Day 1 (00-24 UTC) (%)	Day 2 (00-24 UTC) (%)	Day 3 (00-24 UTC) (%)	Day 4 (00-24 UTC) (%)
Active	R1-R2 M Class	Yes	80	80	80	80
Very Active	R3 to R5 X	No	20	20	20	20

Solar Radiation Storms - (High Energy Protons):

Radiation Storms Probability (Exceedance)	Level (cm^{-2} sr^{-1} s^{-1})	Past 24 Hours (Yes/No)	Day 1 (00-24 UTC) (%)	Day 2 (00-24 UTC) (%)	Day 3 (00-24 UTC) (%)	Day 4 (00-24 UTC) (%)
Active	≥ S1	No	5	5	10	10
Very Active	≥ S3 *	No	1	1	1	1

* S3 ≥ 10 MeV ≥ 1000 pfu and / or ≥ 50 MeV ≥ 10 pfu. (pfu = $cm^{-2}sr^{-1}s^{-1}$)

Issued by Met Office Space Weather Advisor, Tel: +44 (0) 330 135 4254 Email: moswoc@metoffice.gov.uk

© Crown Copyright 2022. All Rights Reserved.